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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,119	09/10/2004	George Kammler	016906-0322	4162
23428 7590 02/25/2008 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007				
EXAMINER				
CORRIGAN, JOSEPH JAMES				
ART UNIT		PAPER NUMBER		
3744				
MAIL DATE		DELIVERY MODE		
02/25/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/507,119

**Applicant(s)**

KAMMLER, GEORGE

**Examiner**

JOSEPH CORRIGAN

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Regarding claim 31, the phrase "gel-like" renders the claims indefinite because the claims include elements not actually disclosed (those encompassed by "gel-like"), thereby rendering the scope of the claims unascertainable. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

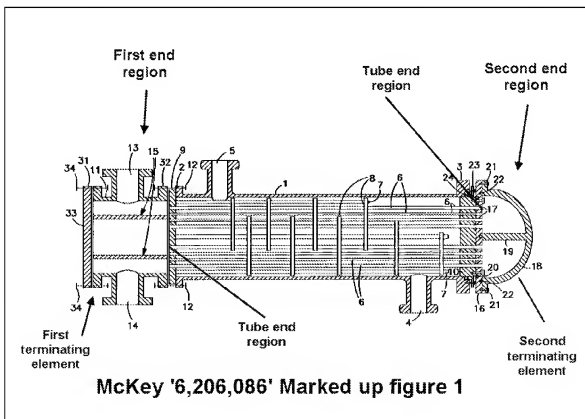
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 23-26, 28, and 31-42 are rejected under 35 U.S.C. 102(b) as being anticipated by McKey '6,206,086'.

In re claim 23, McKey '086 discloses a heat exchanger (see figure 1) comprising: first (33, figure 1) and second (18, figure 1) terminating elements; at least one tube (6, figure 1) through which a first medium is configured to flow, wherein the at least one tube (6, figure 1) comprises a first end region connected to the first terminating element (see marked up figure 1) and a second end region (see marked up figure 1) connected to the second terminating element (see marked up figure 1); a first tube part (see

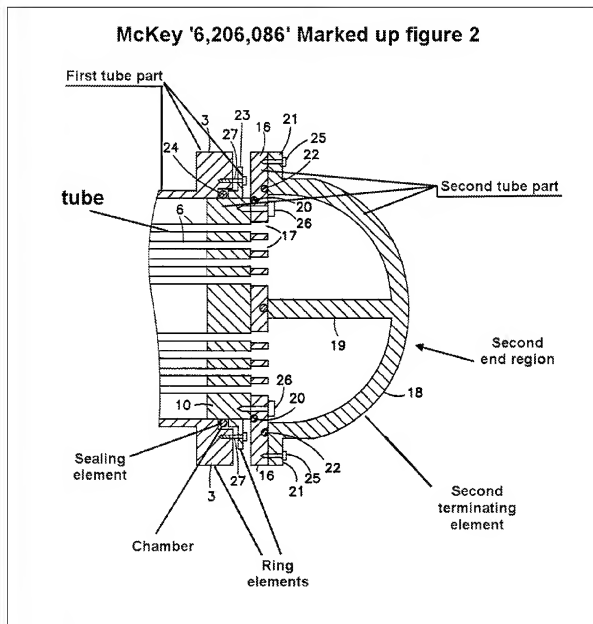
Art Unit: 3744

marked up figure 2) connected to the first terminating element (see marked up figure 2); a second tube part (see marked up figure 2) connected to the second terminating element (marked up figure 2), wherein the first and second tube parts (see marked up figure 2) run radially into one another at least over a partial region of their axial extent, wherein one of the first and second tube parts (first tube part, see marked up figure 2) comprises two continuous ring-like elements (see marked up figure 2) protruding radially towards the other of the first and second tube parts (second tube part, see marked up figure 2); and at least one sealing element (24, figure 2, C3, L42-45) disposed between the two ring-like elements in a spatial region between the first and



Art Unit: 3744

second tube parts (see marked up figure 2).



In re claim 24, McKey '086 discloses the invention above and further discloses that at least one chamber (see marked up figure 2) is formed between the first tube part (see marked up figure 2) and the second tube part (see marked up figure 2) by the two

continuous ring-like elements. (See marked up figure 2).

In re claim 25, McKey '086 discloses the invention above and further discloses that the at least one chamber (see marked up figure 2) is formed by the first tube part (see marked up figure 2) and a second tube part (see marked up figure 2).

In re claim 26, McKey '086 discloses the invention above and further discloses that the chamber is at least substantially sealed off by the two ring-like elements. (See marked up fig. 2).

In re claim 28, McKey '086 discloses the invention above and further discloses that the chamber is at least partially filled with an elastic medium (24, figure 2, packing, C3, L41-45) which comprises the at least one sealing element (see marked up figure 2).

In re claim 31, McKey '086 discloses the invention above and further discloses that the at least one sealing element (24, figure 2) can be introduced into the chamber as a pasty or gel-like medium. (See C3, L41-45 recites use of packing material which can be described as gel-like [malleable quality] for airtight sealing)

In re claim 32, McKey '086 discloses the invention above and further discloses that the first and second tube parts (marked up figure 2) form a substantially sealed spatial region when the first and second tube parts are connected (see marked up figure 2) at their respective terminating elements and the at least one sealing element is provided in the chamber (marked up figure 2), wherein at least two connection elements (4, 5, figure 1) are provided such that a second medium is configured to flow through the spatial region through the connection elements (4, 5). (Please note that second medium, typically a gas that requires cooling, enters inlet, element #4, and exits outlet,

Art Unit: 3744

element #5. The second medium travels through the shell portion (see C3, L8) and the refrigerant [first medium], for cooling the gas, passes through ports 13 and 14 (see C3, L19-22)).

In re claim 33, McKey '086 discloses the invention above and further discloses that the second medium flows around the at least one tube through which the first medium flows (see figure 1).

In re claim 34, McKey '086 discloses the invention above and further discloses that the continuous ring- like elements is spaced apart in an axial direction (see marked up figure 2).

In re claim 35, McKey '086 discloses the invention above and further discloses that the continuous ring- like elements form integral constituents of the first tube part (see marked up figure 2).

In re claim 36, McKey '086 discloses the invention above and further discloses that the continuous ring- like elements are additional components connected to the one of the first and second tube parts. (See marked up figure 2 which illustrates that "continuous rings" are considered "additional" components since components are distinctive features to basic design).

In re claim 37, McKey '086 discloses the invention above and further discloses that the continuous ring- like elements serve as support, as seen in a radial direction, for the first and second tube parts. (Please note that ring element (23) is secured with fastener (figure 2), thereby, serves as support between the first and second tube parts.)

In re claim 38, McKey '086 discloses the invention above and further discloses that

the continuous ring- like elements serve as axial bearings. (Please note that ring elements (constituent of first tube part), when fastened together, serve as bearings against second tube part when vibration occurs.)

In re claim 39, McKey '086 discloses the invention above and further discloses that the at least one tube comprises a plurality of tubes (6, figure 2) through which the first medium flows, wherein the plurality of tubes are arranged substantially parallel to one another radially inside the first and second tube parts. (See marked up figure 2).

In re claim 40, McKey '086 discloses the invention above and further discloses that the plurality of tubes (6, figure 1) are each connected, at their respective first end regions (see marked up figure 1), to the first terminating element (see marked up figure 1) and are each connected, at their respective second end regions, to the second terminating element. (See marked up figure 1).

In re claim 41, McKey '086 discloses the invention above and further discloses that at least one of the first and second end regions (first end region, marked up figure 1) of the at least one tube (6, figure 1) is connected to a connection element (13, figure 1) for supplying the first medium, discharging the first medium, or a combination thereof.

In re claim 42, McKey '086 discloses the invention above and further discloses that at least one of the first and second terminating elements (first terminating element, marked up figure 1) is connected to at least one connection element (13, figure 1) for supplying the first medium, discharging the first medium, or a combination thereof.



***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 27, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKey '86 in view of Lucke '2,512,748'.

In re claim 27, While McKey teaches that the chamber may be substantially sealed off by the two ring-like elements, he does not explicitly teach that the chamber may, optionally, be sealed off by the two ring-like elements.

Lucke '748 discloses a chamber not sealed off by the two ring-like elements (See marked up figure 4).

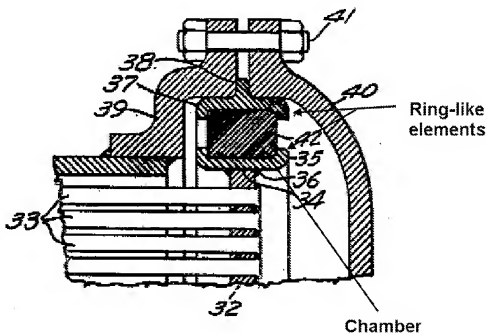
It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify McKey '086 with a chamber that is not sealed off by the two ring-like elements as taught by Lucke '748 in order to advantageously allow tube parts to be removed more easily, thereby, saving time during repairs.

In re claim 29, McKey '086 discloses the invention above; however, fails to explicitly recite that the chamber is filled such that the elastic medium forms an annular element extending radially between the first and second tube parts.

Lucke '748 discloses that the chamber is filled such that the elastic medium forms an annular element (42, C3, L27-30) extending radially between the first and second tube parts. (See marked up figure 4).

Art Unit: 3744

It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify McKey '086 with an elastic medium forming an annular element extending radially between the first and second tube parts, as taught by Lucke, in order to advantageously provide a fluid tight seal between the exterior and the interior of the heat exchanger avoiding escape of poison gas, thereby, preventing illness.



Lucke '2,512,748' Marked up figure 4

In re claim 30, McKey '086 discloses the invention above; however, fails to explicitly recite that the at least one sealing element is laid into the chamber as a ring element.

Lucke '748 discloses that the at least one sealing element is laid into the chamber as a ring element. (See marked up figure 4, element 42, C3, L27-30 regarding annular rubber body).

It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify McKey '086 with the at least one sealing element laid into the chamber as a ring element as taught by Lucke '748 in order to advantageously provide a fluid tight seal between the exterior and the interior of the heat exchanger avoiding escape of poison gas, thereby, preventing illness.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph J. Corrigan whose telephone number is 571-270-3213. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisors are Cheryl Tyler or Frantz Jules on (571) 272-4834 or (571) 272-6681, respectively. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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1/11/08

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